



-0334-2 DIV

<110> Hillman, Jennifer L.; Lal, Preeti G.;
Corley, Neil C.; Shah, Purvi

<120> ANTIBODIES TO A HUMAN PHOSPHATIDYLINOSITOL 4,5-BISPHOSPHATE 5-
PHOSPHATASE (As amended)

<130> PF-0334-2 DIV

<140> 09/892,287

<141> 2001-06-26

<150> US 09/258,643

<151> 1999-02-26

<150> US 08/884,681

<151> 1997-06-27

<160> 5

<170> PERL Program

<210> 1

<211> 372

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> Incyte ID No: 638789CD1

<400> 1

Met Asp Val Leu Ser Pro Leu Ser Phe Ile Lys Val Ser His Val
1 5 10 15
Arg Met Gln Gly Ile Leu Leu Leu Val Phe Ala Lys Tyr Gln His
20 25 30
Leu Pro Tyr Ile Gln Ile Leu Ser Thr Lys Ser Thr Pro Thr Gly
35 40 45
Leu Phe Gly Tyr Trp Gly Asn Lys Gly Gly Val Asn Ile Cys Leu
50 55 60
Lys Leu Tyr Gly Tyr Tyr Val Ser Ile Ile Asn Cys His Leu Pro
65 70 75
Pro His Ile Ser Asn Asn Tyr Gln Arg Leu Glu His Phe Asp Arg
80 85 90
Ile Leu Glu Met Gln Asn Cys Glu Gly Arg Asp Ile Pro Asn Ile
95 100 105
Leu Asp His Asp Leu Ile Ile Trp Phe Gly Asp Met Asn Phe Arg
110 115 120
Ile Glu Asp Phe Gly Leu His Phe Val Arg Glu Ser Ile Lys Asn
125 130 135
Arg Cys Tyr Gly Gly Leu Trp Glu Lys Asp Gln Leu Ser Ile Ala
140 145 150
Lys Lys His Asp Pro Leu Leu Arg Glu Phe Gln Glu Gly Arg Leu
155 160 165
Leu Phe Pro Pro Thr Tyr Lys Phe Asp Arg Asn Ser Asn Asp Tyr
170 175 180

PF-0334-2 DIV

Asp Thr Ser Glu Lys Lys Arg Lys Pro Ala Trp Thr Asp Arg Ile
185 190 195
Leu Trp Arg Leu Lys Arg Gln Pro Cys Ala Gly Pro Asp Thr Pro
200 205 210
Ile Pro Pro Ala Ser His Phe Ser Leu Ser Leu Arg Gly Tyr Ser
215 220 225
Ser His Met Thr Tyr Gly Ile Ser Asp His Lys Pro Val Ser Gly
230 235 240
Thr Phe Asp Leu Glu Leu Lys Pro Leu Val Ser Ala Pro Leu Ile
245 250 255
Val Leu Met Pro Glu Asp Leu Trp Thr Val Glu Asn Asp Met Met
260 265 270
Val Ser Tyr Ser Ser Thr Ser Asp Phe Pro Ser Ser Pro Trp Asp
275 280 285
Trp Ile Gly Leu Tyr Lys Val Gly Leu Arg Asp Val Asn Asp Tyr
290 295 300
Val Ser Tyr Ala Trp Val Gly Asp Ser Lys Val Ser Cys Ser Asp
305 310 315
Asn Leu Asn Gln Val Tyr Ile Asp Ile Ser Asn Ile Pro Thr Thr
320 325 330
Glu Asp Glu Phe Leu Leu Cys Tyr Tyr Ser Asn Ser Leu Arg Ser
335 340 345
Val Val Gly Ile Ser Arg Pro Phe Gln Ile Pro Pro Gly Ser Leu
350 355 360
Arg Glu Asp Pro Leu Gly Glu Ala Gln Pro Gln Ile
365 370

<210> 2

<211> 2573

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<223> Incyte ID No: 638789CB1

<400> 2

gaaggctcag catacacgtc gtgacttgga acgtggcttc ggcagcgccc ctcgagctct 60
cagtgacctg cttcagctga acaaccgaa cctcaatctt gacatatatg ttattggttt 120
gcaggaattg aactctggga tcataagcct cctttccgat gctgccttta atgactcgtg 180
gagcagtttc ctcatggatg tgctttcccc tctgagcttc atcaaggtct cccatgtccg 240
tatgcagggg atcctcttac tgggtctttgc caagtatcag catttgccct atatccagat 300
tctgtctact aaatccaccc ccaactggcct gtttggttac tgggggaaca aaggtggagt 360
caacatctgc ctgaagcttt atggctacta tgtcagcatc atcaactgcc acctgcctcc 420
ccacatttcc aacaattacc agcggctgga gcactttgac cggatcctgg agatgcagaa 480
ttgtgagggg cgagacatcc caaacatcct ggaccacgac ctcattatct ggtttgaga 540
catgaacttt cggatcgagg actttgggtt gcactttggt cgggaatcca ttaaaaatcg 600
gtgctacggg ggcctgtggg agaaggacca gtcagcatt gccaaagaaac atgacctgct 660
gctccggggg ttccaggagg gccgcctact cttcccgccc acctacaagt ttgataggaa 720
ctccaacgac tatgacacca gtgagaaaaa acgcaagcct gcatggaccg atcgcatcct 780
gtggaggctg aagcggcagc cctgtgctgg ccccgacact cccataccgc cggcgtcaca 840
cttctccttg tctctgaggg gctacagcag ccacatgacg tacggcatca gcgaccacaa 900
gcctgtctcc ggcacgttcg acttggagct gaagccattg gtgtctgctc cgctgatcgt 960
cctgatgccc gaggacctgt ggaccgtgga aaatgacatg atggtcagct actcttcaac 1020

PF-0334-2 DIV

ctcggacttc cccagcagcc cgtgggactg gattggactg tacaaggtgg ggctgcggga 1080
 cgttaatgac tacgtgtcct atgcctgggt cggggacagc aaggtctcct gcagcgacaa 1140
 cctgaaccag gtttacatcg acatcagcaa tatccctacc actgaagatg agtttctcct 1200
 ctgttactac agcaacagtc tgcgttctgt ggtggggata agcagaccct tccagatccc 1260
 gcctggctcc ttgagggagg acccactggg tgaagcacag ccacagatct gagccaggat 1320
 gggagtgaat cccaggcgga ggccagagct ggcagccagc tctgcctttc cactgccggg 1380
 agtgctgggg gccagcctg gccccctgaa gagacagcca agtgctgtcc acatactcct 1440
 cccagagtga gctctaacca ggctcatttg ctctctccac tactcatctc tggaattagc 1500
 cgcttaataa caggtttttg ttgctgagat gtgagtgaag ccagctagtg tgtcaacagt 1560
 gaagacctgg ggacagttct gcgtctcatt tctggattcc taccctctct tctagtcttg 1620
 cccaagtagt cctgccaggc acatgcccc a ttggcacag gcctgcattc ttgtcgtgcc 1680
 gtcctggggc tcaggctgtc tgggagggga gatgctcaca tttgtacagg ctacatagac 1740
 tgggtgaagc agtgctggat tccaggagtc ttggcatctc atagcttgct cccgtgagga 1800
 gtgagcagag ggtctgggat ttctgctttc agcaaaagca gtctgactca gtgggcagaa 1860
 tggagggggc cctctagcca ggctcttacg ccatgggtat gagcagggtg atgagggtcc 1920
 ttcggccagc acaaccttcc tccctactca cggcatggag tctgactgca tggaagttcc 1980
 agatcctgac agagagaact gggaaggatc caggttctgct tccgttggtg gcttgagtcc 2040
 catgcctcca cctgccatc tgaggaaggg gtgacaagtg gtcaaggagc tgtggccaca 2100
 gacttttcca ggggtggtcct tggcagggtga ggtgcgtctg tgccaccctt gtcaggagtc 2160
 attgacgacg ggccccccct ggaccccccg ggacctcaga gtggggggcag gcagaaggga 2220
 gaaccagctc aagacatttt ggaggatctg gccctggggt tcttcagaga acaccctcta 2280
 ggggcttttg ggacatggcc tgtccccaca tccagcactt gcctccgcca tggctactcg 2340
 gcagcccttt tcccaggaga agacacctct gggagcctgc tcagtgettg tccctgccatc 2400
 ctgtgtcctg ggactgaggg ttactccagt tgctctgtgt tgcatactct cccccgcaag 2460
 cctgtgtatg aagaattgtc ccttggtctc cagcaggcca tggctggctg ttttgtgact 2520
 gttacattgt gcaggggtaa ttattagcgt ggctttttaca cttaaaaaaa aaa 2573

<210> 3

<211> 397

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> GenBank ID No: g1399105

<400> 3

Ala	Arg	Gly	Leu	His	Phe	Val	Lys	Phe	Ala	Ile	Asp	Ser	Asp	Gln
1				5					10					15
Leu	His	Gln	Leu	Trp	Glu	Lys	Asp	Gln	Leu	Asn	Met	Ala	Lys	Asn
			20						25					30
Thr	Trp	Pro	Ile	Leu	Lys	Gly	Phe	Gln	Glu	Gly	Pro	Leu	Asn	Phe
			35						40					45
Ala	Pro	Thr	Phe	Lys	Phe	Asp	Val	Gly	Thr	Asn	Lys	Tyr	Asp	Thr
			50						55					60
Ser	Ala	Lys	Lys	Arg	Lys	Pro	Ala	Trp	Thr	Asp	Arg	Ile	Leu	Trp
			65						70					75
Lys	Val	Lys	Ala	Pro	Gly	Gly	Gly	Pro	Ser	Pro	Ser	Gly	Arg	Lys
			80						85					90
Ser	His	Arg	Leu	Gln	Val	Thr	Gln	His	Ser	Tyr	Arg	Ser	His	Met
			95						100					105
Glu	Tyr	Thr	Val	Ser	Asp	His	Lys	Pro	Val	Ala	Ala	Gln	Phe	Leu
			110						115					120
Leu	Gln	Phe	Ala	Phe	Arg	Asp	Asp	Met	Pro	Leu	Val	Arg	Leu	Glu

PF-0334-2 DIV

125 130 135
 Val Ala Asp Glu Trp Val Arg Pro Glu Gln Ala Val Val Arg Tyr
 140 145 150
 Arg Met Glu Thr Val Phe Ala Arg Ser Ser Trp Asp Trp Ile Gly
 155 160 165
 Leu Tyr Arg Val Gly Phe Arg His Cys Lys Asp Tyr Val Ala Tyr
 170 175 180
 Val Trp Ala Lys His Glu Asp Val Asp Gly Asn Thr Tyr Gln Val
 185 190 195
 Thr Phe Ser Glu Glu Ser Leu Pro Lys Gly His Gly Asp Phe Ile
 200 205 210
 Leu Gly Tyr Tyr Ser His Asn His Ser Ile Leu Ile Gly Ile Thr
 215 220 225
 Glu Pro Phe Gln Ile Ser Leu Pro Ser Ser Glu Leu Ala Ser Ser
 230 235 240
 Ser Thr Asp Ser Ser Gly Thr Ser Ser Glu Gly Glu Asp Asp Ser
 245 250 255
 Thr Leu Glu Leu Leu Ala Pro Lys Ser Arg Ser Pro Ser Pro Gly
 260 265 270
 Lys Ser Lys Arg His Arg Ser Arg Ser Pro Gly Leu Ala Arg Phe
 275 280 285
 Pro Gly Leu Ala Leu Arg Pro Ser Ser Arg Glu Arg Arg Gly Ala
 290 295 300
 Ser Arg Ser Pro Ser Pro Gln Ser Arg Arg Leu Ser Arg Val Ala
 305 310 315
 Pro Asp Arg Ser Ser Asn Gly Ser Ser Arg Gly Ser Ser Glu Glu
 320 325 330
 Gly Pro Ser Gly Leu Pro Gly Pro Trp Ala Phe Pro Pro Ala Val
 335 340 345
 Pro Arg Ser Leu Gly Leu Leu Pro Ala Leu Arg Leu Glu Thr Val
 350 355 360
 Asp Pro Gly Gly Gly Gly Ser Trp Gly Pro Asp Arg Glu Ala Leu
 365 370 375
 Ala Pro Asn Ser Leu Ser Pro Ser Pro Gln Gly His Arg Gly Leu
 380 385 390
 Glu Glu Gly Gly Leu Gly Pro
 395

<210> 4

<211> 942

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> GenBank ID No: g1019103

<400> 4

Val Thr Val Pro Glu Pro Gly Ala Ala Glu Ser Arg Ala Pro Cys
 1 5 10 15
 Gly Asp Ser Ser Gly Gly Cys Val Arg Ser Ala Gly Ala Ser Met
 20 25 30
 Asp Gln Ser Val Ala Ile Gln Glu Thr Leu Ala Glu Gly Glu Tyr
 35 40 45

PF-0334-2 DIV

Cys	Val	Ile	Ala	Val	Gln	Gly	Val	Leu	Cys	Glu	Gly	Asp	Ser	Arg	
				50					55					60	
Gln	Ser	Arg	Leu	Leu	Gly	Leu	Val	Arg	Tyr	Arg	Leu	Glu	His	Gly	
				65					70					75	
Gly	Gln	Glu	His	Ala	Leu	Phe	Leu	Tyr	Thr	His	Arg	Arg	Met	Ala	
				80					85					90	
Ile	Thr	Gly	Asp	Asp	Val	Ser	Leu	Asp	Gln	Ile	Val	Pro	Val	Ser	
				95					100					105	
Arg	Asp	Phe	Thr	Leu	Glu	Glu	Val	Ser	Pro	Asp	Gly	Glu	Leu	Tyr	
				110					115					120	
Ile	Leu	Gly	Ser	Asp	Val	Thr	Val	Gln	Leu	Asp	Thr	Ala	Glu	Leu	
				125					130					135	
Ser	Leu	Val	Phe	Gln	Leu	Pro	Phe	Gly	Ser	Gln	Thr	Arg	Met	Phe	
				140					145					150	
Leu	His	Glu	Val	Ala	Arg	Ala	Cys	Pro	Gly	Phe	Asp	Ser	Ala	Thr	
				155					160					165	
Arg	Asp	Pro	Glu	Phe	Leu	Trp	Leu	Ser	Arg	Tyr	Arg	Cys	Ala	Glu	
				170					175					180	
Leu	Glu	Leu	Glu	Met	Pro	Thr	Pro	Arg	Gly	Cys	Asn	Ser	Ala	Leu	
				185					190					195	
Val	Thr	Trp	Pro	Gly	Tyr	Ala	Thr	Ile	Gly	Gly	Gly	Gly	Ser	Asn	
				200					205					210	
Phe	Asp	Gly	Leu	Arg	Pro	Asn	Gly	Lys	Gly	Val	Pro	Met	Asp	Gln	
				215					220					225	
Ser	Ser	Arg	Gly	Gln	Asp	Lys	Pro	Glu	Ser	Leu	Gln	Pro	Arg	Gln	
				230					235					240	
Asn	Lys	Ser	Lys	Ser	Glu	Ile	Thr	Asp	Met	Val	Arg	Ser	Ser	Thr	
				245					250					255	
Ile	Thr	Val	Ser	Asp	Lys	Ala	His	Ile	Leu	Ser	Met	Gln	Lys	Phe	
				260					265					270	
Gly	Leu	Arg	Asp	Thr	Ile	Val	Lys	Ser	His	Leu	Leu	Gln	Lys	Glu	
				275					280					285	
Glu	Asp	Tyr	Thr	Tyr	Ile	Gln	Asn	Phe	Arg	Phe	Phe	Ala	Gly	Thr	
				290					295					300	
Tyr	Asn	Val	Asn	Gly	Gln	Ser	Pro	Lys	Glu	Cys	Leu	Arg	Leu	Trp	
				305					310					315	
Leu	Ser	Asn	Gly	Ile	Gln	Ala	Pro	Asp	Val	Tyr	Cys	Val	Gly	Phe	
				320					325					330	
Gln	Glu	Leu	Asp	Leu	Ser	Lys	Glu	Ala	Phe	Phe	Phe	His	Asp	Thr	
				335					340					345	
Pro	Lys	Glu	Glu	Glu	Trp	Phe	Lys	Ala	Val	Ser	Glu	Gly	Leu	His	
				350					355					360	
Pro	Asp	Ala	Lys	Tyr	Ala	Lys	Val	Lys	Leu	Ile	Arg	Leu	Val	Gly	
				365					370					375	
Ile	Met	Leu	Leu	Leu	Tyr	Val	Lys	Gln	Glu	His	Ala	Ala	Tyr	Ile	
				380					385					390	
Ser	Glu	Val	Glu	Ala	Glu	Thr	Val	Gly	Thr	Gly	Ile	Met	Gly	Arg	
				395					400					405	
Met	Gly	Asn	Lys	Gly	Gly	Val	Ala	Ile	Arg	Phe	Gln	Phe	His	Asn	
				410					415					420	
Thr	Ser	Ile	Cys	Val	Val	Asn	Ser	His	Leu	Ala	Ala	His	Ile	Glu	
				425					430					435	
Glu	Tyr	Glu	Arg	Arg	Asn	Gln	Asp	Tyr	Lys	Asp	Ile	Cys	Ser	Arg	
				440					445					450	

E₁

PF-0334-2 DIV

Met	Gln	Phe	Cys	Gln	Pro	Asp	Pro	Ser	Leu	Pro	Pro	Leu	Thr	Ile	455	460	465
Ser	Asn	His	Asp	Val	Ile	Leu	Trp	Leu	Gly	Asp	Leu	Asn	Tyr	Arg	470	475	480
Ile	Glu	Glu	Leu	Asp	Val	Glu	Lys	Val	Lys	Lys	Leu	Ile	Glu	Glu	485	490	495
Lys	Asp	Phe	Gln	Met	Leu	Tyr	Ala	Tyr	Asp	Gln	Leu	Lys	Ile	Gln	500	505	510
Val	Ala	Ala	Lys	Thr	Val	Phe	Glu	Gly	Phe	Thr	Glu	Gly	Glu	Leu	515	520	525
Thr	Phe	Gln	Pro	Thr	Tyr	Lys	Tyr	Asp	Thr	Gly	Ser	Asp	Asp	Trp	530	535	540
Asp	Thr	Ser	Glu	Lys	Cys	Arg	Ala	Pro	Ala	Trp	Cys	Asp	Arg	Ile	545	550	555
Leu	Trp	Lys	Gly	Lys	Asn	Ile	Thr	Gln	Leu	Ser	Tyr	Gln	Ser	His	560	565	570
Met	Ala	Leu	Lys	Thr	Ser	Asp	His	Lys	Pro	Val	Ser	Ser	Val	Phe	575	580	585
Asp	Ile	Gly	Val	Arg	Val	Val	Asn	Asp	Glu	Leu	Tyr	Arg	Lys	Thr	590	595	600
Leu	Glu	Glu	Ile	Val	Arg	Ser	Leu	Asp	Lys	Met	Glu	Asn	Ala	Asn	605	610	615
Ile	Pro	Ser	Val	Ser	Leu	Ser	Lys	Arg	Glu	Phe	Cys	Phe	Gln	Asn	620	625	630
Val	Lys	Tyr	Met	Gln	Leu	Lys	Val	Glu	Ser	Phe	Thr	Ile	His	Asn	635	640	645
Gly	Gln	Val	Pro	Cys	His	Phe	Glu	Phe	Ile	Asn	Lys	Pro	Asp	Glu	650	655	660
Glu	Ser	Tyr	Cys	Lys	Gln	Trp	Leu	Asn	Ala	Asn	Pro	Ser	Arg	Gly	665	670	675
Phe	Leu	Leu	Pro	Asp	Ser	Asp	Val	Glu	Ile	Asp	Leu	Glu	Leu	Phe	680	685	690
Val	Asn	Lys	Thr	Thr	Ala	Thr	Lys	Leu	Asn	Ser	Gly	Glu	Asp	Lys	695	700	705
Ile	Glu	Asp	Ile	Leu	Val	Leu	His	Leu	Asp	Arg	Gly	Lys	Asp	Tyr	710	715	720
Phe	Leu	Ser	Val	Ser	Gly	Asn	Tyr	Leu	Pro	Ser	Cys	Phe	Gly	Ser	725	730	735
Pro	Ile	His	Thr	Leu	Cys	Tyr	Met	Arg	Glu	Pro	Ile	Leu	Asp	Leu	740	745	750
Pro	Leu	Glu	Thr	Ile	Ser	Glu	Leu	Thr	Leu	Met	Pro	Val	Trp	Thr	755	760	765
Gly	Asp	Asp	Gly	Ser	Gln	Leu	Asp	Ser	Pro	Met	Glu	Ile	Pro	Lys	770	775	780
Glu	Leu	Trp	Met	Met	Val	Asp	Tyr	Leu	Tyr	Arg	Asn	Ala	Val	Gln	785	790	795
Gln	Glu	Asp	Leu	Phe	Gln	Gln	Pro	Gly	Leu	Arg	Ser	Glu	Phe	Glu	800	805	810
His	Ile	Arg	Asp	Cys	Leu	Asp	Thr	Gly	Met	Ile	Asp	Asn	Leu	Ser	815	820	825
Ala	Ser	Asn	His	Ser	Val	Ala	Glu	Ala	Leu	Leu	Leu	Phe	Leu	Glu	830	835	840
Ser	Leu	Pro	Glu	Pro	Val	Ile	Cys	Tyr	Ser	Thr	Tyr	His	Asn	Cys	845	850	855

PF-0334-2 DIV

Leu	Glu	Cys	Ser	Gly	Asn	Tyr	Thr	Ala	Ser	Lys	Gln	Val	Ile	Ser	
				860					865					870	
Thr	Leu	Pro	Ile	Phe	His	Lys	Asn	Val	Phe	His	Tyr	Leu	Met	Ala	
				875					880					885	
Phe	Leu	Arg	Glu	Leu	Leu	Lys	Asn	Ser	Ala	Lys	Asn	His	Leu	Asp	
				890					895					900	
Glu	Asn	Ile	Leu	Ala	Ser	Ile	Phe	Gly	Ser	Leu	Leu	Leu	Arg	Asn	
				905					910					915	
Pro	Ala	Gly	His	Gln	Lys	Leu	Asp	Met	Thr	Glu	Lys	Lys	Lys	Ala	
				920					925					930	
Gln	Glu	Phe	Ile	His	Gln	Phe	Leu	Cys	Asn	Pro	Leu				
				935					940						

<210> 5

<211> 901

<212> PRT

<213> Homo sapiens

<220>

<221> misc_feature

<223> GenBank ID No: g1420920

<400> 5

Met	Glu	Pro	Pro	Leu	Pro	Val	Gly	Ala	Gln	Pro	Leu	Ala	Thr	Val	
1				5					10					15	
Glu	Gly	Met	Glu	Met	Lys	Gly	Pro	Leu	Arg	Glu	Pro	Cys	Ala	Leu	
				20					25					30	
Thr	Leu	Ala	Gln	Arg	Asn	Gly	Gln	Tyr	Glu	Leu	Ile	Ile	Gln	Leu	
				35					40					45	
His	Glu	Lys	Glu	Gln	His	Val	Gln	Asp	Ile	Ile	Pro	Ile	Asn	Ser	
				50					55					60	
His	Phe	Arg	Cys	Val	Gln	Glu	Ala	Glu	Glu	Thr	Leu	Leu	Ile	Asp	
				65					70					75	
Ile	Ala	Ser	Asn	Ser	Gly	Cys	Lys	Ile	Arg	Val	Gln	Gly	Asp	Trp	
				80					85					90	
Ile	Arg	Glu	Arg	Arg	Phe	Glu	Ile	Pro	Asp	Glu	Glu	His	Cys	Leu	
				95					100					105	
Lys	Phe	Leu	Ser	Ala	Val	Leu	Ala	Ala	Gln	Lys	Ala	Gln	Ser	Gln	
				110					115					120	
Leu	Leu	Val	Pro	Glu	Gln	Lys	Asp	Ser	Ser	Ser	Trp	Tyr	Gln	Lys	
				125					130					135	
Leu	Asp	Thr	Lys	Asp	Lys	Pro	Ser	Val	Phe	Ser	Gly	Leu	Leu	Gly	
				140					145					150	
Phe	Glu	Asp	Asn	Phe	Ser	Ser	Met	Asn	Leu	Asp	Lys	Lys	Ile	Asn	
				155					160					165	
Ser	Gln	Asn	Gln	Pro	Thr	Gly	Ile	His	Arg	Glu	Pro	Pro	Pro	Pro	
				170					175					180	
Pro	Phe	Ser	Val	Asn	Lys	Met	Leu	Pro	Arg	Glu	Lys	Glu	Ala	Ser	
				185					190					195	
Asn	Lys	Glu	Gln	Pro	Lys	Val	Thr	Asn	Thr	Met	Arg	Lys	Leu	Phe	
				200					205					210	
Val	Pro	Asn	Thr	Gln	Ser	Gly	Gln	Arg	Glu	Gly	Leu	Ile	Lys	His	
				215					220					225	
Ile	Leu	Ala	Lys	Arg	Glu	Lys	Glu	Tyr	Val	Asn	Ile	Gln	Thr	Phe	

PF-0334-2 DIV

	230		235		240
Arg Phe Phe Val	Gly Thr Trp Asn Val	Asn Gly Gln Ser Pro	Asp		
	245		250		255
Ser Gly Leu Glu	Pro Trp Leu Asn Cys	Asp Pro Asn Pro Pro	Asp		
	260		265		270
Ile Tyr Cys Ile	Gly Phe Gln Glu Leu	Asp Leu Ser Thr Glu	Ala		
	275		280		285
Phe Phe Tyr Phe	Glu Ser Val Lys Glu	Gln Glu Trp Ser Met	Ala		
	290		295		300
Val Glu Arg Gly	Leu His Ser Lys Ala	Lys Tyr Lys Lys Val	Gln		
	305		310		315
Leu Val Arg Leu	Val Gly Met Met Leu	Leu Ile Phe Ala Arg	Lys		
	320		325		330
Asp Gln Cys Arg	Tyr Ile Arg Asp Ile	Ala Thr Glu Thr Val	Gly		
	335		340		345
Thr Gly Ile Met	Gly Lys Met Gly Asn	Lys Gly Gly Val Ala	Val		
	350		355		360
Arg Phe Val Phe	His Asn Thr Thr Phe	Cys Ile Val Asn Ser	His		
	365		370		375
Leu Ala Ala His	Val Glu Asp Phe Glu	Arg Arg Asn Gln Asp	Tyr		
	380		385		390
Lys Asp Ile Cys	Ala Arg Met Ser Phe	Val Val Pro Asn Gln	Thr		
	395		400		405
Leu Pro Gln Leu	Asn Ile Met Lys His	Glu Val Val Ile Trp	Leu		
	410		415		420
Gly Asp Leu Asn	Tyr Arg Leu Cys Met	Pro Asp Ala Asn Glu	Val		
	425		430		435
Lys Ser Leu Ile	Asn Lys Lys Asp Leu	Gln Arg Leu Leu Lys	Phe		
	440		445		450
Asp Gln Leu Asn	Ile Gln Arg Thr Gln	Lys Lys Ala Phe Val	Asp		
	455		460		465
Phe Asn Glu Gly	Glu Ile Lys Phe Ile	Pro Thr Tyr Lys Tyr	Asp		
	470		475		480
Ser Lys Thr Asp	Arg Trp Asp Ser Ser	Gly Lys Cys Arg Val	Pro		
	485		490		495
Ala Trp Cys Asp	Arg Ile Leu Trp Arg	Gly Thr Asn Val Asn	Gln		
	500		505		510
Leu Asn Tyr Arg	Ser His Met Glu Leu	Lys Thr Ser Asp His	Lys		
	515		520		525
Pro Val Ser Ala	Leu Phe His Ile Gly	Val Lys Val Val Asp	Glu		
	530		535		540
Arg Arg Tyr Arg	Lys Val Phe Glu Asp	Ser Val Arg Ile Met	Asp		
	545		550		555
Arg Met Glu Asn	Asp Phe Leu Pro Ser	Leu Glu Leu Ser Arg	Arg		
	560		565		570
Glu Phe Val Phe	Glu Asn Val Lys Phe	Arg Gln Leu Gln Lys	Gly		
	575		580		585
Lys Phe Gln Ile	Ser Asn Asn Gly Gln	Val Pro Cys His Phe	Ser		
	590		595		600
Phe Ile Pro Lys	Leu Asn Asp Ser Gln	Tyr Cys Lys Pro Trp	Leu		
	605		610		615
Arg Ala Glu Pro	Phe Glu Gly Tyr Leu	Glu Pro Asn Glu Thr	Val		
	620		625		630
Asp Ile Ser Leu	Asp Val Tyr Val Ser	Lys Asp Ser Val Thr	Ile		

PF-0334-2 DIV

	635		640		645
Leu Asn Ser Gly	Glu Asp Lys Ile Glu	Asp Ile Leu Val Leu	His		
	650		655		660
Leu Asp Arg Gly	Lys Asp Tyr Phe Leu	Thr Ile Ser Gly Asn	Tyr		
	665		670		675
Leu Pro Ser Cys	Phe Gly Thr Ser Leu	Glu Ala Leu Cys Arg	Met		
	680		685		690
Lys Arg Pro Ile	Arg Glu Val Pro Val	Thr Lys Leu Ile Asp	Leu		
	695		700		705
Glu Glu Asp Ser	Phe Leu Glu Lys Glu	Lys Ser Leu Leu Gln	Met		
	710		715		720
Val Pro Leu Asp	Glu Gly Ala Ser Glu	Arg Pro Leu Gln Val	Pro		
	725		730		735
Lys Glu Ile Trp	Leu Leu Val Asp His	Leu Phe Lys Tyr Ala	Cys		
	740		745		750
His Gln Glu Asp	Leu Phe Gln Thr Pro	Gly Met Gln Glu Glu	Leu		
	755		760		765
Gln Gln Ile Ile	Asp Cys Leu Asp Thr	Ser Ile Pro Glu Thr	Ile		
	770		775		780
Pro Gly Ser Asn	His Ser Val Ala Glu	Ala Leu Leu Ile Phe	Leu		
	785		790		795
Glu Ala Leu Pro	Glu Pro Val Ile Cys	Tyr Glu Leu Tyr Gln	Arg		
	800		805		810
Cys Leu Asp Ser	Ala Tyr Asp Pro Arg	Ile Cys Arg Gln Val	Ile		
	815		820		825
Ser Gln Leu Pro	Arg Cys His Arg Asn	Val Phe Arg Tyr Leu	Met		
	830		835		840
Ala Phe Leu Arg	Glu Leu Leu Lys Phe	Ser Glu Tyr Asn Ser	Val		
	845		850		855
Asn Ala Asn Met	Ile Ala Thr Leu Phe	Thr Ser Leu Leu Leu	Arg		
	860		865		870
Pro Pro Pro Asn	Leu Met Ala Arg Gln	Thr Pro Ser Asp Arg	Gln		
	875		880		885
Arg Ala Ile Gln	Phe Leu Leu Gly Phe	Leu Leu Gly Ser Glu	Glu		
	890		895		900
Asp					

E,
condid